

NON-PUBLIC?: N
ACCESSION #: 8811210363
LICENSEE EVENT REPORT (LER)

FACILITY NAME: Joseph M. Farley Unit 1 PAGE: 1 of 3

DOCKET NUMBER: 0500348

TITLE: Reactor Trip Due To Digital Electro-hydraulic Control System Maintenance
Test Error

EVENT DATE: 10/21/88 LER #: 88-021-00 REPORT DATE: 11/18/88

OPERATING MODE: 1 POWER LEVEL: 100

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR
SECTION
50.73(a)(2)(iv)

LICENSEE CONTACT FOR THIS LER:

NAME: D. N. Morey General Manager-Nuclear Plant TELEPHONE: 205-899-5156

COMPONENT FAILURE DESCRIPTION:

CAUSE: SYSTEM: COMPONENT: MANUFACTURER:
REPORTABLE TO NPRDS:

SUPPLEMENTAL REPORT EXPECTED: No

ABSTRACT:

At 1234 on 10-21-88, with the unit operating at 100% power, the reactor tripped due to a turbine trip. The turbine tripped due to inadvertent injection of a maintenance diagnostic card (QDT) test signal which was sensed as an overspeed protection system fault condition. This occurred during troubleshooting of the turbine speed input channel 2 of the digital electro-hydraulic control (DEHC) system. While inserting the ODT in the speed channel card chassis, an erroneous data input condition was inadvertently created which was sufficient to cause a data communications failure on both overspeed protection (OPC) processors. The DEHC DC power failure relay subsequently deenergized and the turbine tripped. This event was caused by personnel error. The mode selector switch on the ODT was inadvertently placed in the simulate position while the card was being inserted. With this switch in the simulate position, a test signal was injected which was sensed as an overspeed protection system fault condition and a turbine trip was generated. This event has been discussed with the personnel responsible for maintenance of the DEHC computer system. The simulate mode function of the ODT will be disabled so that inadvertent positioning of the mode selector switch will not cause an input during on-line testing.

The unit returned to power operation on 10-22-88 at 1619.

END OF ABSTRACT

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Plant and System Identification

Westinghouse - Pressurized Water Reactor

Energy Industry Identification System codes are identified in the text as XX!.

Summary of Event

At 1234 on 10-21-88, with the unit operating at 100% power, the reactor tripped due to a turbine trip. The turbine tripped due to inadvertent injection of a maintenance diagnostic card test signal which was sensed as an overspeed protection system fault condition. This occurred during troubleshooting of the turbine speed input channel 2 of the digital electro-hydraulic control (DEHC) TA! system. While inserting the ODT in the speed channel card chassis, an erroneous data input condition was inadvertently created which was sufficient to cause a data communications failure on both OPC processors. The DEHC DC power failure relay subsequently deenergized and the turbine tripped.

Description of Event

On 10-21-88, Unit 1 was operating at 100% power and maintenance was in progress to repair turbine speed output channel 2 of the DEHC system which had failed low. At 1234, a maintenance diagnostic test card was inserted in the card chassis for the 2 speed channel in order to evaluate data processing error conditions associated with the speed channel. During insertion of the ODT, the mode select momentary switch on the ODT was inadvertently toggled to the simulate position. This changed the mode of the diagnostic card from display to simulate and generated a data error condition. This resulted in the inability of the OPC processors to maintain normal data communications with the DEHC DC power failure relay card. Therefore, the DEHC DC power failure relay actuated and the turbine tripped. An automatic reactor trip resulted per design.

Following the trip, the operators implemented FNP-I-EEP-0 (Reactor Trip or Safety Injection) and FNP-I-ESP-0.1 (Reactor Trip Response), ensuring that the unit was safely in Mode 3 (Hot Standby). The unit was maintained in a stable condition.

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Cause of Event

This event was caused by personnel error. The mode selector switch on the maintenance diagnostic card was inadvertently placed in the simulate position while inserting the maintenance diagnostic card. With this switch in the simulate position, a test signal was injected which was sensed as an overspeed protection system fault condition. This generated the turbine trip.

Reportability Analysis and Safety Assessment

This event is reportable because of the actuation of the reactor protection system. After the trip, the following safety systems operated as designed: main feedwater was isolated with flow control valves and bypass valves closed, auxiliary feedwater pumps started automatically and provided flow to the steam generators, source range nuclear instrumentation automatically energized, and pressurizer heaters and spray valves operated automatically as required to maintain system pressure. There was no effect on the health and safety of the public.

Corrective Action

This event has been discussed with the personnel responsible for maintenance of the DEHC computer system. The simulate mode function of the maintenance diagnostic card will be disabled so that inadvertent positioning of the mode selector switch will not cause an input during on-line testing.

Additional Information

The unit returned to power operation on 10-22-88 at 1619.

No similar LERs have been submitted by Farley Nuclear Plant.

No components failed during this event.

This event would not have been more severe if it had occurred under different operating conditions.

ATTACHMENT # 1 TO ANO # 8811210363 PAGE 1 OF 1

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W. G. Hairston, III
Senior Vice President

Nuclear Operations Alabama Power

November 18, 1988 the southern electric system

Docket No. 50-348

U. S. Nuclear Regulatory Commission

ATTN: Document Control Desk
Washington, D.C. 20555

Dear Sir:

Joseph M. Farley Nuclear Plant - Unit 1
Licensee Event Report No. LER 88-021-00

Joseph M. Farley Nuclear Plant, Unit 1, Licensee Event Report No. LER 88-021-00 is being submitted in accordance with 10CFR50.73.

If you have any questions, please advise.

Respectfully submitted,

W. G. Hairston, III
WGH,III/JAR:pr-8.78

Enclosure

cc: IE, Region II

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